Epitomes

Important Advances in Clinical Medicine

General Surgery

The Scientific Board of the California Medical Association presents the following inventory of items of progress in general surgery. Each item, in the judgment of a panel of knowledgeable physicians, has recently become reasonably firmly established, both as to scientific fact and important clinical significance. The items are presented in simple epitome and an authoritative reference, both to the item itself and to the subject as a whole, is generally given for those who may be unfamiliar with a particular item. The purpose is to assist busy practitioners, students, research workers or scholars to stay abreast of these items of progress in general surgery that have recently achieved a substantial degree of authoritative acceptance, whether in their own field of special interest or another.

The items of progress listed below were selected by the Advisory Panel to the Section on General Surgery of the California Medical Association and the summaries were prepared under its direction.

Reprint requests to Division of Scientific and Educational Activities, California Medical Association, 44 Gough Street, San Francisco, CA 94103

Arm Veins—Durable Autogenous Alternatives for Arterial Bypass

THE CEPHALIC and basilic arm veins, by virtue of their length, diameter and patency, are satisfactory substitutes for the saphenous vein in leg bypass operations. Although frequently gossamer thin, the bursting strength of arm veins exceeds 400 mm of mercury; their diameters average 5 to 7 mm and they are more uniform in caliber than their saphenous counterparts. The medially placed basilic vein spans the common femoral to the infrageniculate popliteal artery segment; the cephalic vein, when excised completely from the wrist to the deltopectoral groove, extends to the tibial vessels. Most important of all, arm veins are endothelialized, compliant and autogenous.

The test of any graft material is patency and it is here that arm veins show their desirability. The gold standard for graft patency and effectiveness is the reversed saphenous vein. Neither Dacron, polytetrafluoroethylene, human umbilical vein nor endarterectomy or balloon angioplasty has approached the long-term durability of autogenous vein. The tantalizing impulse to "go to the shelf" for a synthetic graft in the 20% to 40% of patients with an inadequate or previously excised saphenous vein should be tempered by the disappointing patency rates of nonautogenous conduits.

A recent comprehensive follow-up of arm vein grafts to the popliteal and infrapopliteal arteries has shown short- and long-term patency equivalent to that of saphenous veins. Limb salvage was the indication for 55% of the 70 operations. No in-hospital mortality was observed and fears of donor upper extremity morbidity were unfounded. Complications such as inflow and outflow occlusion and neointimal proliferation occurred infrequently and were managed as with saphenous grafts. Late aneurysmal dilatation, reported by others, occurred only once.

With so many desirable features, it is perplexing why the use of arm veins for arterial grafts has not achieved widespread popularity and application. Learning to excise and prepare these delicate vessels and to do anastomoses can be frustrating and demands patience and technique. Magnification is advisable. With a two-team approach, the operating time is about 20 minutes longer than that for a saphenous vein bypass. A successful outcome with arm vein grafts requires educating patients, surgeons, phlebotomists and vein-care teams, referring physicians and nursing personnel.

A secondary surgical procedure for graft failure does not mandate the use of a synthetic graft. In this situation, arm veins have also yielded better long-term patency than any synthetic graft. Unfortunately, some patients by this time will no longer have a satisfactory undamaged arm vein and should properly receive a synthetic conduit. Nevertheless, the advantages of autogenous grafts dictate that contemporary vascular surgeons be prepared to use arm veins as bypass grafts and to include them in their therapeutic armamentarium.

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REFERENCES

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Schulman ML, Badhey MR: Late results and angiographic evaluation of arm veins as long bypass grafts. Surgery 1982 Dec; 92:1032-1041

Needle Aspiration of the Thyroid Gland

A PRECISE DIAGNOSIS and therapy for thyroid nodules and certain other thyroid abnormalities, such as chronic lymphocytic thyroiditis, require histologic identification. Although some physicians retain reservations, increasing evidence indicates that needle biopsy best provides this information in selecting patients for surgical and medical treatment of thyroid nodules.